

## **ABSTRACT**

A process for the liquid phase selective hydrogenation of alkynes to alkenes with high selectivity to alkenes relative to alkanes, high alkyne conversion, and sustained catalytic activity comprising a reactant comprising an alkyne and a non-hydrocarbon solvent/absorbent, contacting the reactant stream with a hydrogen-containing stream in the presence of a supported, promoted, Group VIII catalyst, removing the solvent/absorbent, and recovering the alkene product.